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| APPLICATION NO.                  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------|-------------|----------------------|---------------------|------------------|
| 10/686,123                       | 10/14/2003  | Jayshree Seth        | 58659US002          | 7617             |
| 32692                            | 7590        | 10/02/2006           | EXAMINER            |                  |
| 3M INNOVATIVE PROPERTIES COMPANY |             |                      | COLE, ELIZABETH M   |                  |
| PO BOX 33427                     |             |                      | ART UNIT            | PAPER NUMBER     |
| ST. PAUL, MN 55133-3427          |             |                      | 1771                |                  |

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/686,123

**Applicant(s)**

SETH ET AL.

**Examiner**

Elizabeth M. Cole

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.                                                |

1. Claims 1, 3, 5-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kacher et al, PG Pub 2003/0049407 in view of Schortmann et al, U.S. Patent No. 4,537,819 and Schlegel, Jr. et al, U.S. Patent No. 3,638,270. Kacher et al discloses a disposable cleaning sheet which comprises protrusions having the claimed shape. See figures 7-13. The protrusions can be incorporated into cleaning sheets formed from nonwoven fabrics. See paragraphs 0043-0049. The protrusions can cover from 5-110 percent of the surface area, (paragraph 0060), and can have a height of 0.5-80 mm. See paragraph 0072-0084. The protrusions can be made from the claimed material, (see paragraph 0054). The protrusions can be formed integrally with a sheet of material which corresponds to the claimed strands. See paragraph [h 0105. The strands comprising the integrally extruded protrusions can be affixed to a substrate. See paragraph 0112. The strands would necessarily have a rectangular shape. See figure 1. The substrate can be a nonwoven fabric and can comprise a scrim. The nonwovens can comprise synthetic and natural fibers and comprise carded nonwovens. The nonwoven substrate can have a basis weight of 15-195 grams per square meter. Additives can be added to the nonwoven to enhance the hydrophobicity or hydrophilicity of the nonwoven. See paragraphs 0043-0049. Kacher differs from the claimed invention because Kacher does not teach that the cleaning elements comprising the strips with the protrusions should be embedded in the nonwoven. Schortmann et al discloses an insert which comprises a plurality of protrusions which is embedded in a nonwoven fabric. The fabric can be formed from either natural or synthetic fibers, and may comprise carded fibers which would not include additional bonding means. The

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fabric can have the claimed basis weight. See col. 3, line 35 – col. 4, line 48.

Schortmann et al teaches that it is advantageous to embed a protrusion supplying material into a nonwoven fabric so that the more abrasive aspects of the protrusions are present on the surface but at the same time the softness and absorbency of the nonwoven fabric also present. See col. 3, lines 15-34. Therefore, one of ordinary skill in the art would have been motivated to embed the protrusion supplying strips of Kacher into the nonwoven fabric by the teaching of Schortmann that this configuration provides the best cleaning and absorbing material.

2. Kacher also differs from the claimed invention because while Kacher teaches that strips can be applied to the nonwoven in a variety of configurations, Kacher does not explicitly teach cross-laying the strands. However, note that Kacher discloses that the orientation of the strips and the protrusions is directly related to the cleaning ability of the sheet. See paragraph 0115. Schlegel, Jr. et al teaches that cleaning elements which comprise protruding cleaning elements can be formed so that they are disposed in a woven configuration. See figures. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have disposed the strands in a cross laid configuration. One of ordinary skill in the art would have been motivated to employ a crosslaid configuration because Kacher teaches that the orientation of the strips and protrusions is directly related to the cleaning ability and therefore, Kacher teaches that the orientation of the strips and protrusions is a result effective variable and it therefore would have been obvious to one of ordinary skill in the art to have selected the optimum orientation of the strips through the process of routine experimentation

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which resulted in the desired cleaning ability. Further, Schlegel, Jr. teaches that the substrate from which cleaning elements protrude can be configured in a woven or crosslaid configuration. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a cross laid configuration, motivated by the teaching of Schlegel, R., that such a configuration was known in the art as suitable for forming the layer of strands from which projecting cleaning elements protrude.

3. Applicant's arguments filed 7/20/06 have been fully considered but they are not persuasive. Applicant argues that Kacher is not combinable with Schortmann because there would be no reason to make the combination since the backing of Kacher is already available for use in cleaning. However, the teaching of Schortmann is not to use different faces with different cleaning elements, (i.e., protrusions on one face and nonwoven on the other), but instead to combine the protrusions within the nonwoven so that a single face can be used to both scrub and wipe.

4. Applicant argues that there would be no way to combine the protrusions of Kacher with the nonwoven of Schortmann except by hydroentangling and it does not appear to Applicant that this method of combining would work. However, the hydroentangling is employed in Schortmann in order to combine the two materials and also to form the protrusions. Since Kacher the protrusions are already formed, the hydroentangling would either not be necessary, or if used to combine the fibrous element with the strips would not break up the strips since the strips in Kacher would be stronger and have more integrity than the reticulated foam of Schortmann or even the

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fibers of the nonwoven since they would be thicker and thus stronger. Also, it is noted that Schortmann teaches forming a layered structure with the protrusions comprising the center layer and the nonwoven layers on either side. In view of this teaching of Schortmann, the person wishing to protrusions within a nonwoven layer as taught by Schortmann would have been motivated to form a similar layered structure wherein the backing layer of Kacher would be the first nonwoven layer, the strips of Kacher would correspond to the protrusions of Schortmann, and then a second nonwoven layer would be disposed on top, and then the three could be integrated either through hydroentangling as taught by Schortmann or by other means of bonding the face of the second nonwoven to the base of the strips from which the hooks and loops of the protrusions of Kacher protrude.

5. With regard to the motivation to make the combination, Kacher teaches every element except for having both protrusion elements and nonwoven elements making up one of the faces of the cleaning sheet. Schortmann clearly teaches that having both nonwoven elements and protrusions elements on a single face of a cleaning sheet enhances the cleaning ability of the sheet by allowing a single face to both scrub and wipe. Therefore, the motivation to form such a structure with the sheet of Kacher is found in the Schortmann reference.

6. Applicant's amendments have overcome the 112 2<sup>nd</sup> paragraph rejections.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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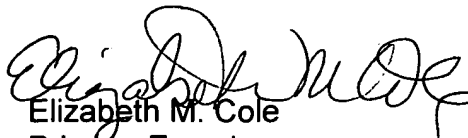
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

  
Elizabeth M. Cole  
Primary Examiner  
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